

Appl. No. : 10/689,199
Filed : October 20, 2003

Amendments to the Claims:

As noted below, please amend Claims 21 and 25 and add new Claims 26-52. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-20. (Canceled)

21. (Original) A method of treating a patient, comprising the steps of:

securing a first rod at a first site in the patient;

securing a second rod at a second site in the patient;

introducing a curable media in between the first and second rods to form a cross link; and

linking the first rod to the second rod by permitting the curable media to cure within the body.

22. (Original) A method of treating a patient as in Claim 21, wherein the introducing step comprises introducing the curable media into a tubular media support structure extending between the first and second rods.

23. (Original) A method of treating a patient as in Claim 22, wherein the support structure comprises a balloon.

24. (Original) A method of treating a patient as in Claim 21, wherein the method is accomplished percutaneously.

25. (Currently amended) A method of treating a patient as in Claim 21, wherein the linking step comprises positioning a balloon between the first and second rods and introducing the media into the balloon which comprises an outer wall defining a cavity and a plurality of reinforcing fibers in the cavity.

26. (New) A subcutaneously assembled in place orthopedic construct, comprising:

a first support structure, configured to be attached to the spine;

a second support structure, configured to be attached to the spine; and

a cross bar, which connects the first support structure to the second support structure to form an orthopedic construct;

wherein the cross bar is attached to the first and second support structures subcutaneously; and

wherein at least the cross bar comprises a media that is hardenable while the support structure is positioned within the body of a patient.

27. (New) A subcutaneously assembled in place construct as in Claim 26, wherein the first support structure comprises a hardenable media.

28 (New) A subcutaneously assembled in place construct as in Claim 27, further comprising a first cross tie connecting the cross bar to the first support, and a second cross tie connecting the cross bar to the second support.

29. (New) A subcutaneously assembled in place construct as in Claim 26, further comprising a first cross tie connecting the cross bar to the first support, and a second cross tie connecting the cross bar to the second support.

30. (New) A subcutaneously assembled in place construct as in Claim 26, wherein the cross bar includes a first aperture for receiving the first support, and a second aperture for receiving the second support.

31. (New) A subcutaneously assembled in place construct as in Claim 26, further comprising a first bone anchor configured for connecting the first support structure to a first vertebral body, and a second bone anchor configured for connecting the first support structure to a second vertebral body.

32. (New) A subcutaneously assembled in place construct as in Claim 31, wherein the first support structure extends through an aperture in the first bone anchor.

33. (New) A subcutaneously assembled in place construct as in Claim 26, wherein the hardenable media comprises an epoxy.

34. (New) A subcutaneously assembled in place construct as in Claim 26, wherein the hardenable media comprises polyurethane.

35. (New) A subcutaneously assembled in place construct as in Claim 26, wherein at least the cross bar comprises an outer wall, defining a cavity therein; and a plurality of reinforcing fibers in the cavity.

36. (New) A method of treating a patient as in Claim 21, further comprising attaching a first bone anchor to a first vertebral body and a second bone anchor to a second vertebral body.

37. (New) A method of treating a patient as in Claim 36, further comprising connecting the first bone anchor and the second bone anchor to the first rod.

38. (New) A method of treating a patient as in Claim 37, further comprising inserting the first rod through an aperture in the first bone anchor.

39. (New) A method of treating a patient as in Claim 38, further comprising inserting the first rod through an aperture in the second bone anchor.

40. (New) A method of treating a patient as in Claim 21, further comprising inserting the first rod through a first aperture in the cross bar.

41. (New) A method of treating a patient as in Claim 40, further comprising inserting the second rod through a second aperture in the cross bar.

42. (New) A method of treating a patient as in Claim 21, further comprising inserting the first rod through a first aperture of a cross tie and inserting the cross bar through a second aperture in the cross tie.

43. (New) A method of treating the spine, comprising the steps of:
attaching a first support structure to the spine;
attaching a second support structure to the spine;
attaching a cross bar to the first and second support structures;
introducing a curable media into at least the cross-bar while it is positioned between the spine and a muscle layer; and
permitting the curable media in the first support to cure within the body

44. (New) A method of treating the spine as in Claim 43, further comprising attaching a first bone anchor to a first vertebral body and a second bone anchor to a second vertebral body.

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45. (New) A method of treating the spine as in Claim 44, further comprising connecting the first bone anchor and the second bone anchor to the first support structure.

46. (New) A method of treating the spine as in Claim 45, further comprising inserting the first support structure through an aperture in the first bone anchor.

47. (New) A method of treating the spine as in Claim 46, further comprising inserting the first support structure through an aperture in the second bone anchor.

48. (New) A method of treating the spine as in Claim 43, further comprising inserting the first support through a first aperture in the cross bar.

49. (New) A method of treating the spine as in Claim 48, further comprising inserting the second support through a second aperture in the cross bar.

50. (New) A method of treating the spine as in Claim 43, wherein the attaching a cross bar step comprises advancing at least a portion of the cross bar between the spine and a muscle layer.

51. (New) A method of treating the spine as in Claim 43, further comprising inserting the first support structure through a first aperture in a cross-tie and inserting the cross-bar through a second aperture in the cross-tie.

52. (New) A method of treating the spine as in Claim 51, further comprising inserting the second support structure through a first aperture in a second cross-tie and inserting the cross-bar through a second aperture in the second cross-tie.